ASSIGNMENT 4

Textbook Assignment: "Scope Interpretation," chapter 7, pages 7-9 through 7-14; "Identification Equipment," chapter 8, pages 8-1 through 8-37, "Dead-Reckoning System," chapter 9, pages 9-1 through 9-14.

4-1. In most cases, targets are indicated by the return from which radar beam lobe(s)?

1. Major lobe
2. Minor lobes
3. Back lobes
4. All of the above

4-2. How do minor lobes affect the radar scope presentation?

1. By eliminating all real contacts
2. By producing unwanted echoes
3. By breaking up large targets into small targets
4. By eliminating all false targets

4-3. When using a double echo to check the calibration of the radar, how do you know the radar is correctly calibrated?

1. The amplitude of both echoes is the same
2. The second echo appears at exactly twice the range of the first
3. The second echo is exactly half as strong as the first
4. The first echo appears at one-third the range of the second

4-4. What is the quickest and most accurate way to determine whether or not a target pip is a second sweep echo?

1. Change the PRR
2. Track the target
3. Vary the range scale
4. Change the transmitter frequency

4-5. What causes "running rabbits" on a radar PPI scope?

1. Cirrus clouds
2. Ocean waves
3. Reflection echoes
4. Interference from another radar

QUESTIONS 4-6 THROUGH 4-9 PERTAIN TO FIGURE 7-8 IN THE TEXT.

4-6. Which of the following targets is probably NOT detectable by radar?

1. Lighthouse
2. Low, sand beach
3. Mountain
4. Radio tower

4-7. Which of the following objects is only partially resolved by radar?

1. Ship No. 1
2. Mountain
3. Low, sand beach
4. Small island

4-8. What is the principal factor limiting the ability of the radar to detect both ships No. 1 and No.2?

1. The peak power of the radar
2. Beamwidth and pulse-length distortion
3. The height of the land mass
4. The composition of the land

4-9. An aircraft approaching your ship at a very low altitude would have the best chance of escaping radar detection if it approached from what direction?

1. East or west
2. West or south
3. North or east
4. North or south

4-10. What is the effect of side lobe ringing ?

1. The scope fails to receive the echoes of close targets
2. A crescent is formed on the PPI scope
3. Shadows and fades merge into a single pip
4. Close targets cause echoes from erroneous bearings

4-11. A basic IFF system is composed of how many subsystems?

1. One
2. Two
3. Three
4. Four

4-12. Which IFF subsystem is referred to as a "slaved" system?

1. Transponder
2. Decoder
3. Interrogator

4-13. Which modes do the military and civilian Mk XII systems have in common?

1. Modes 1 and 3/A
2. Modes 3/A and 4
3. Modes 2 and 3/A
4. Modes 3/A and C

4-14. Interrogator subsystems that are NOT associated with a radar are called "black IFF" systems.

1. True
2. False

4-15. What IFF mode is a two-digit code selected at the C6280A(P)/APX?

1. Mode 1
2. Mode 2
3. Mode 3/A
4. Mode C

4-16. What IFF mode consists of 4096 codes and is selected at the RT-859A/APX-72?

1. Mode 1
2. Mode 2
3. Mode 3/A
4. Mode 4

4-17. What IFF mode is a computer controlled crypto code?

1. Mode 1
2. Mode 2
3. Mode 3/A
4. Mode 4

4-18. What modes are assigned for military use only?

1. Modes 1 and 2
2. Modes 2, 3, and 3/A
3. Modes 1, 2, and 4
4. Modes 2, 4, and C

IN ANSWERING QUESTION 4-19, REFER TO FIGURE 8-1 IN THE TEXT.

4-19. With which of the following pieces of AIMS Mk XII equipment will you be most concerned?

1. C-6280A/APX, AN/UPA-59A, AN/UPX-28, BZ-173/UPA-59(V), and C-8430/UPX
2. AN/UPX-28, C-6280/APX, UPX-25, and AN/UPA-59A
3. C-8430/UPX, BZ-173/UPA-59(V), AN/UPA-59A, and C-6280/APX
4. AN/UPA-59A, AN/UPX-25, AN/UPX-28, and C-6280/APX

4-20. In CIC, what piece of equipment is used to turn on the AIMS Mk XII IFF transponder?

1. C-6280A/APX-72
2. AN/UPA-59A
3. AN/UPX-28
4. AN/UPA-25

4-21. Which IFF mode reply code(s) can be set in the C-6280A/UPX-72?

1. Mode1 only
2. Modes 1 and 3/A
3. Modes 1, 2, 3/A and C
4. Modes 4A and 4B

4-22. What piece of equipment provides remote control and indication for Mode 4 operations?

1. C-6280-A/UPX-72
2. AN/UPA-59A
3. AN/APX-25
4. C-8430/UPX

4-23. Which of the following is the best definition of the term "to defruit"?

1. To remove noise only
2. To remove non-synchronous transponder replies only
3. To remove noise and non-synchronous transponder replies
4. To amplify noise and non-synchronous transponder replies

4-24. To control the KIR-1A/TSEC computer, what piece of equipment should you use?

1. AN/UPA-59A
2. C-10533/APX-100
3. KY-657(P)/UPA-59(V)
4. C-8430/UPX

4-25. Which of the following equipment contains an automatic readout capability, emergency alarm indicators, and a provision for selecting the type of video to be displayed?

1. C-6280A/APX
2. C-8430/UPX
3. AN/UPA-59A
4. BZ-173/UPA

4-26. The ID-1447/UPA-59(V) Intra-target Indicator displays a code readout for Modes 1,2,and 4 only.

1. True
2. False

4-27. The UPA/59A decoder group is made up of how many pieces of equipment?

1. One
2. Two
3. Three
4. Four

4-28. An active decoder is one that contains the intra-target data indicator.

1. True
2. False

IN ANSWERING QUESTION 4-29, REFER TO FIGURE 8-9 IN THE TEXT.

4-29. The 12P/6P switch is normally placed in the 6P position.

1. True
2. False

IN ANSWERING QUESTION 4-30, REFER TO FIGURE 8-12 IN THE TEXT.

4-30. If the RDR/OFF/MIX switch is in the OFF position, what type of video presentation, if any, will be displayed on the radarscope?

1. Radar and IFF video
2. Radar video only
3. IFF video only
4. None, the system is off

4-31. When IFF video is displayed on the PPI scope and an air search radar is being used, the IFF video will be exactly how far behind the radar video?

1. 0.5 nm
2. 1.0 nm
3. 1.5 nm
4. 2.0 nm

4-32. If you want to identify a particular target that you have voice communications with, what switch should you use to display that target's IFF in a stretched pulse?

1. RDR/OFF/MIX
2. I/P/OFF/X
3. SIF/OFF/MODE C
4. DECODE/OFF/CODE

4-33. Which of the following emergency codes indicates a communications failure?

1. 7500
2. 7600
3. 7700
4. 7800

4-34. If you initiate a Mode 4 override, you can still challenge other IFF modes.

1. True
2. False

4-35. What switch allows an override of upper and lower limits selected when the SAL switch is in the ON position?

1. I/P/OFF/X
2. CONT/OFF/MOM
3. DECODE/OFF/CODE
4. 99+/OFF/-1K

4-36. If you are operating in a jamming environment, in what position should you place the DECODE/OFF/CODE switch?

1. DECODE
2. OFF
3. CODE

4-37. When the KIK-18/TSEC keyer is loaded with a code, what classification does it have?

1. CONFIDENTIAL
2. SECRET
3. TOP SECRET

4-38. To communicate with military craft about IFF, a set of brevity codes was established by what publication?

1. ACP-125
2. ACP-160
3. ACP-165
4. ACP-180

4-39. A ship's DR equipment is inaccurate to the extent that it does NOT account for which of the following factors?

1. Ocean currents
2. Course changes
3. Speed changes

4-40. Which of the following equipment does NOT provide input to the Dead Reckoning Analyzer Indicator?

1. Gyro compass
2. Underwater log
3. GPS

4-41. The difference between true north and magnetic north is called "deviation".

1. True
2. False

4-42. The "dummy log system" is a backup for the underwater log system.

1. True
2. False

4-43. The underwater log system determines the speed of own ship by the water pressure on the pit sword.

1. True
2. False

4-44. What piece of dead reckoning equipment does the Dead Reckoning Tracer (DRT) receive its input signals from?

1. Gyro compass
2. Underwater log system
3. Dead reckoning analyzer indicator

4-45. What DRT scale is used for emergency operations?

1. 200 yd per inch
2. 500 yd per inch
3. 1,000 yd per inch
4. 2,000 yd per inch

4-46. When the DRT is to be unused for an indefinite period of time, it should be secured at what remote point?

1. The bulkhead switch in CIC
2. The IC switchboard
3. The DRAI

4-47. Which of the following conditions assures you that the parallel motion protractor is properly aligned with the DRT "bug"?

1. The PMP is fastened securely to the frame of the DRT
2. Lines drawn by the straightedge are precisely parallel with each other
3. Index marks on the circular plate match the cardinal headings on the bearing circle, with the ruler pointing in any direction
4. The PMP ruler is lined up with an east-west line drawn by the "bug" and the index marks on the circular plate match the cardinal headings on the bearing circle

4-48. If you experience a DRT casualty, what type of plot should you use to maintain the plot of own ship's track?

1. DR of own ship's course and speed
2. Bearing and range from a known geographic position
3. Bearing and range from a ship in company

4-49. To determine the distance the ship travels each minute, you should apply the 5-minute rule, based on own ship's speed.

1. True
2. False

4-50. What type of casualty will cause the track of the DRT bug to become unpredictable?

1. Pitometer adjustment
2. Gyro failure
3. OSMSO outage
4. IC switchboard short

4-51. Your ship is on course 275ºT and a contact is reported at 215º relative. What is the true bearing of the contact?

1. 035º
2. 130º
3. 215º
4. 310º

4-52. Use of the Halifax plot requires how many OSs?

1. One
2. Two
3. Three
4. Four

4-53. When the DRT is used to maintain a geographic plot, the trace it produces is a relative plot.

1. True
2. False

4-54. An experienced DRT operator should be able to maintain and provide essential data on what maximum number of contacts?

1. Five
2. Six
3. Seven
4. Eight

4-55. In certain situations, the plots created on the DRT are considered a legal record.

1. True
2. False

4-56. DRT traces must be stored on board for how many months?

1. 6
2. 12
3. 18
4. 24

4-57. What DRT scale is recommended for tracking contacts?

1. 500 yards-per-inch
2. 1,000 yards-per-inch
3. 2,000 yards-per-inch
4. 5,000 yards-per-inch

4-58. What are the two methods of plotting contacts on the DRT?

1. True and relative
2. Offset and indirect
3. Direct and offset
4. Direct and indirect

4-59. According to the 3-minute rule, if a contact travels 3,000 yards in 6 minutes, it should be traveling at what speed?

1. 30 knots
2. 15 knots
3. 6 knots
4. 3 knots

4-60. When a “man overboard” is reported, the DRT operator should set the DRT to the 500 yards-per-inch scale.

1. True
2. False

4-61. To determine the position of the man overboard, you should plot the water entry point 100 yards for every 5 knots of ship’s speed.

1. True
2. False

4-62. How often should the position of the man overboard be plotted on the DRT?

1. Every 15 to 30 seconds
2. Every 30 to 45 seconds
3. Every 45 to 60 seconds